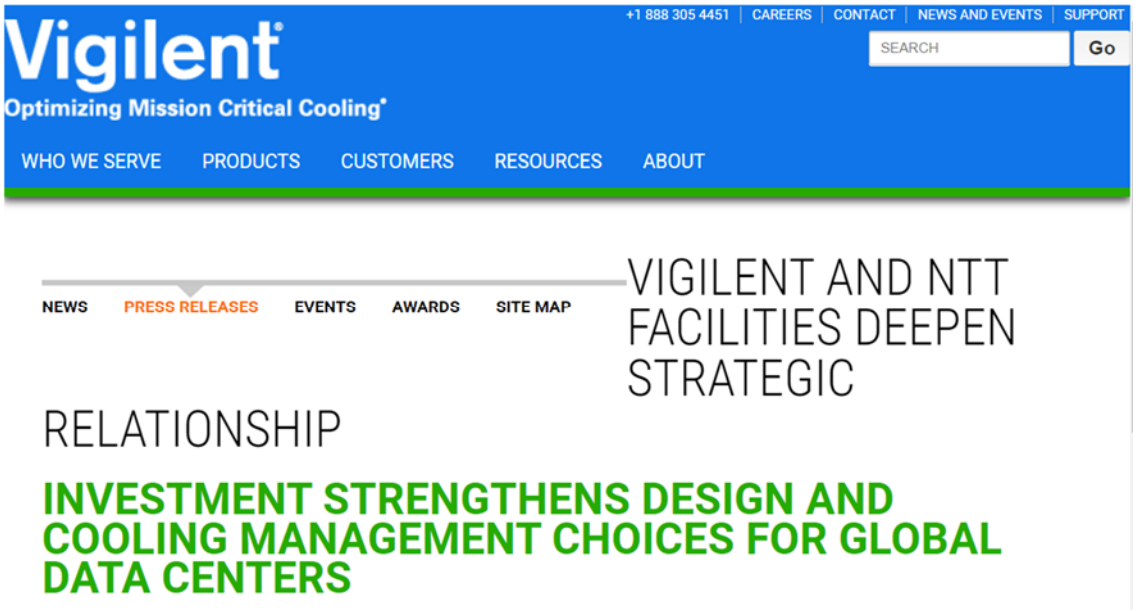
Exhibit 9

U.S. Patent No. 6,854,287 – Infringement Claim Chart

Claim 1	Exemplary Evidence of Infringement by NTT
[1pre] A method for cooling a room configured to house a plurality of computer systems, said method comprising:	NTT's data centers use a method for cooling a room configured to house a plurality of computer systems. For example, NTT uses Vigilent to manage cooling systems in its data centers.  https://www.vigilent.com/vigilent-and-ntt-facilities-deepen-strategic-relationship/

Claim 1	Exemplary Evidence of Infringement by NTT

NTT Communications

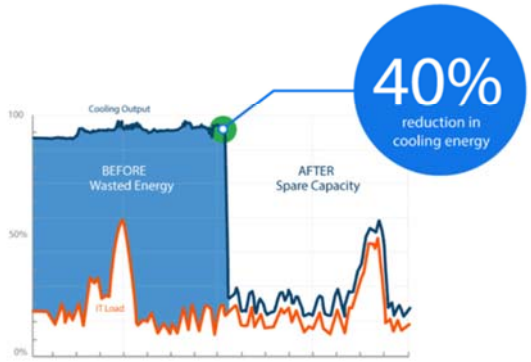
Vigilent®

PROJECT AT-A-GLANCE

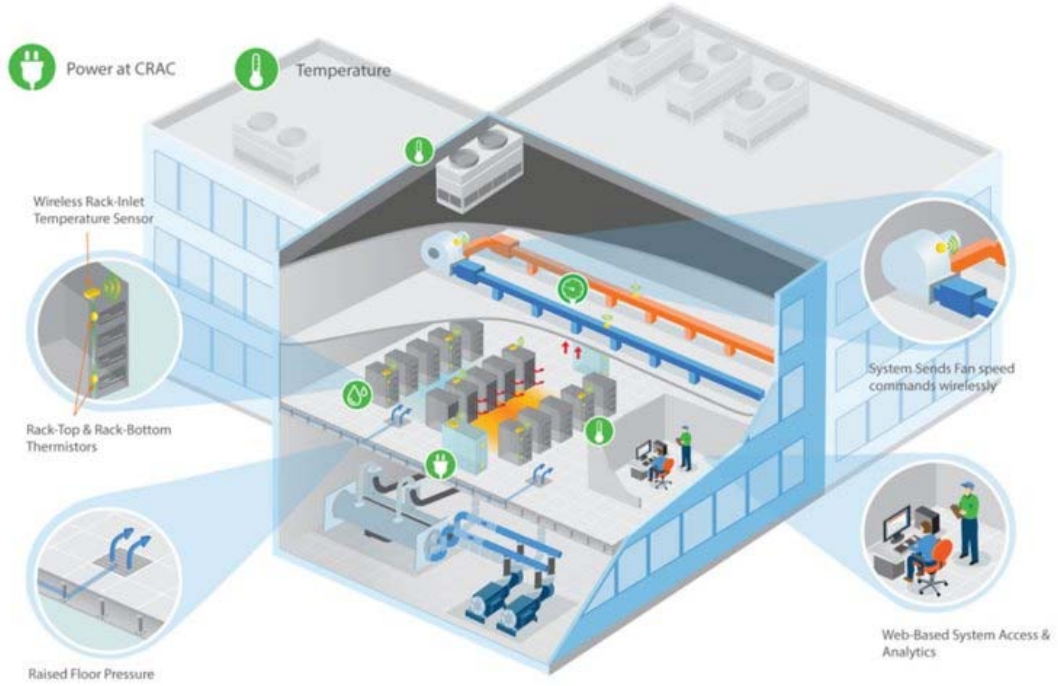
- NTT Communications set out to improve the overall energy efficiency of its two largest US data centers
- Technology from Vigilent was used to manage cooling systems more efficiently
- NTT managed to eliminate or power down nearly half of its existing cooling units
- Savings included an overall 20% reduction in cooling energy used across the two sites
- Other results included PUE improvements and a reduction in carbon emissions

Representatives from NTT Facilities and Vigilent discuss the results of NTT Facilities deploying the Vigilent Dynamic Cooling Management System.

https://www.vigilent.com/case-study-ntt-facilities-and-vigilent/

Claim 1	Exemplary Evidence of Infringement by NTT
	VIGILENT CONTINUOUSLY MATCHES COOLING OUTPUT TO HEAT LOAD Optimized airflow eliminates hot spots. Vigilent continuously optimizes the airflow in your facility, delivering improved reliability and availability. The system automatically finds and eliminates hot spots, while its comprehensive reports and tools facilitate easier operations management. Our system delivers the right amount of cooling exactly where it's needed. This typically results in up to a 40% reduction in carbon emissions and your cooling energy bill. We achieve that with sophisticated AI-based technology that learns your environment and adapts to change.  https://www.vigilent.com/who-we-serve/by-facility/data-centers/.

Claim 1	Exemplary Evidence of Infringement by NTT



https://www.vigilent.com/who-we-serve/by-facility/data-centers/.

Constantly adapting
The AI engine constantly changes cooling when it detects new equipment and varying IT loads.

Granular control & visibility
The Vigilent system provides you with rack-level visibility, and automatically controls cooling resources to ensure you're getting the right amount of cooling to the locations you care about most.

https://www.vigilent.com/who-we-serve/by-role/data-center-operator/.

Claim 1	Exemplary Evidence of Infringement by NTT
	Vigilent also detects high temperature readings and sends command to the cooling units to control the temperature. DYNAMIC CONTROL Automatic, real-time thermal management. The Vigilent Control System combines the temperature data gathered by the monitoring system with powerful machine learning. It automatically determines how to best adjust your facility's cooling resources – constantly and in real time – to match the current heat load, all while using the minimum amount of energy possible. https://www.vigilent.com/products-and-services/vigilent-dynamic-cooling-management-system/

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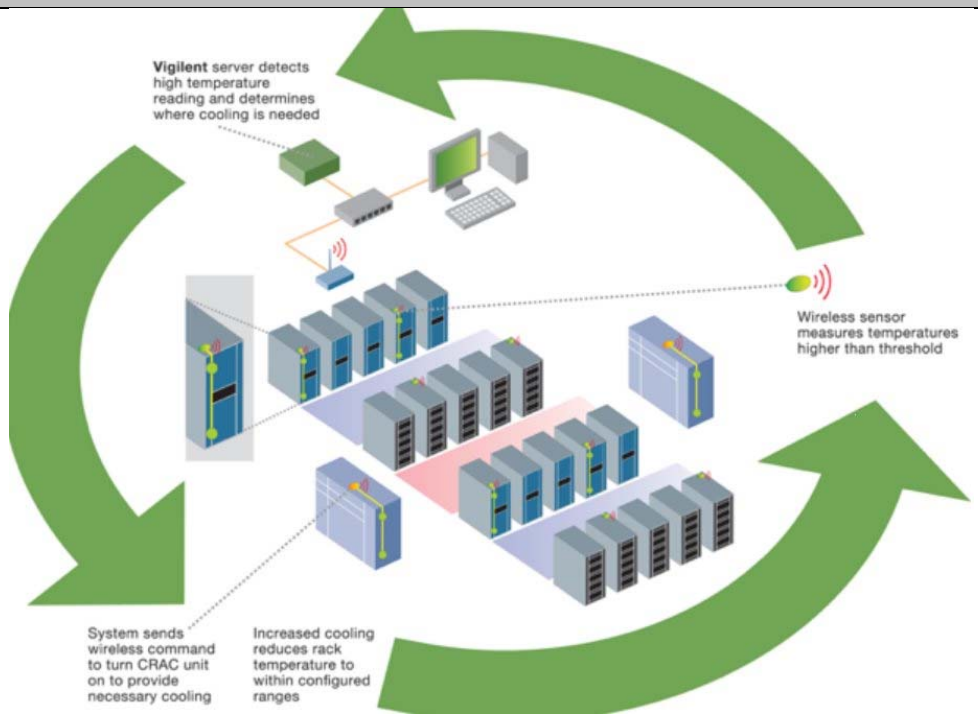
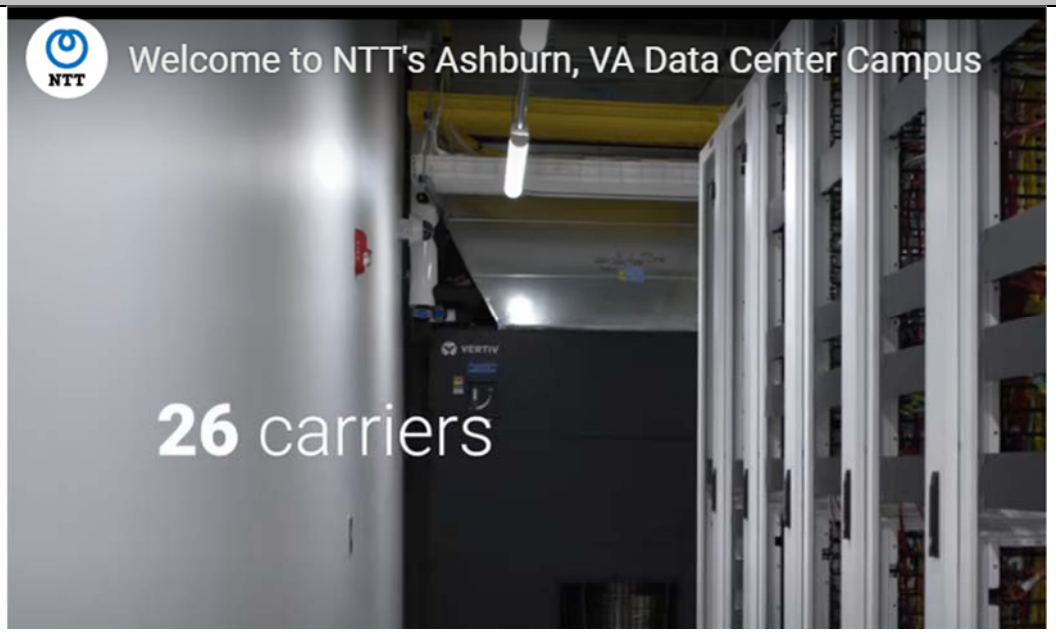
	 https://techcrunch.com/2012/03/26/vigilent-raises-6-7m-from-accel-for-intelligent-data-center-energy-management-system/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAHN5ro4OJaRHQi5FRCMvqn2bp-tTxvWCI3YIbeLD NTT also uses Vertiv (Liebert) cooling units in the colocation data center. Liebert cooling units are controlled by Liebert's iCOM Intelligent Communication and Monitoring system.

Claim 1	Exemplary Evidence of Infringement by NTT
	 https://services.global.ntt/en-us/services-and-products/global-data-centers/global-locations/americas/ashburn-va-1-data-center

Claim 1	Exemplary Evidence of Infringement by NTT
	 https://services.global.ntt/en-us/services-and-products/global-data-centers/global-locations/americas/hillsboro-hi1-data-center Maintaining optimal temperatures in a data vault is essential to keeping critical infrastructure up and running. At our Chicago CH1 Data Center, we recirculate the heat produced in each of the 6MW vaults using our Vertiv Liebert fan walls. As warm air is exhausted from densely stacked servers into a contained hot aisle, the fan walls output cool 75°F air at a rate designed to maintain a constant pressure differential between the cold and hot aisles of our clients' racks. The hot air is channeled into a common return plenum and then back to the fan walls where the cycle begins again. The units themselves are carefully placed throughout the vault to ensure that the entire vault meets the CFD modeling and hot spots are minimized. Click here to learn more about our Chicago data center. https://services.global.ntt/en-us/insights/blog/chicago-construction-updates

Claim 1	Exemplary Evidence of Infringement by NTT
	With scalable pre-fabricated solutions like Vertiv™ SmartMod™ and the quickly deployed Power Module, Vertiv is standardizing modular systems so you can get your data center running, faster. Vertiv.com  https://issuu.com/businessreviewusa/docs/bro_bc_usa_ragingwire_data_centers

Claim 1	Exemplary Evidence of Infringement by NTT

SmartMod incorporates:

- Modular and scalable Vertiv™ Liebert® UPS power protection
- Close-coupled in-row Liebert® CRD thermal management units with intelligent iCOM™ Edge controls

2

https://www.vertiv.com/4ad535/globalassets/products/critical-power/integrated-solutions/vertiv-smartmod-na-brochure_0.pdf

https://www.vertiv.com/49d637/globalassets/shared/liebert-icom-thermal-system-controls-brochure.pdf ("iCOM Brochure").

Claim 1	Exemplary Evidence of Infringement by NTT
	At the cooling unit level, the Liebert iCOM unit control provides the highest protection available and optimal performance. • Monitors 380 unit and component points to eliminate single points of failure • Self-healing features avoid passing unsafe operating thresholds • Highly intuitive, full-color, touch screen simplifies operations to save time and reduce human error • Multiple, automated unit protection routines, including lead/lag, cascade, rapid restart, refrigerant protection and valve calibration  **At the supervisory level,** the Liebert iCOM-S system control offers a revolutionary way to harmonize and optimize thermal system performance to optimize capacity across the data center, gain quick access to actionable data, and automate system diagnostics and trending. • Advanced monitoring and at-a-glance reporting on performance metrics and trends for efficiency, capacity and adverse events • Up to 50% system efficiency gains • 30% lower deployment costs • Teamwork modes that prevent conflict between units and allow them to adapt to changes in facility and IT demand to improve efficiency and availability and reduce system wear and tear – saving more than $10,000 per unit per year in energy costs • Simple and easy to deploy — auto-configuration to detect and configure up to 4,800 sensors, eliminating the need for custom integration to building management systems and cutting sensor deployment times in half Liebert iCOM unit control and Liebert iCOM-S system control are available for new Vertiv™ data center cooling units or as retrofits.  iCOM Brochure at p. 3.
[1a] providing a plurality of heat exchanger units configured to receive air from said room and to deliver air to said room;	NTT provides a plurality of heat exchanger units configured to receive air from said room and to deliver air to said room. For example, Vigilent's dynamic cooling management activates NTT's cooling units, that deliver and receive air from the room, and measures the return and discharge air temperatures.

Claim 1	Exemplary Evidence of Infringement by NTT
	MONITOR STATUS CRAC, CRAH, and AHU temperature sensors constantly measure the discharge and return air temperatures of your cooling equipment. This data is stored indefinitely to enable the detection of long-term trends. https://www.vigilent.com/products-and-services/monitoring/ You can track different cooling unit variables, including: • **BOP** is the control output, which is how the Vigilent system can adjust cooling units by turning them on or off • **Discharge Air** is the temperature of air being supplied to the facility by the cooling unit • **Power Monitor** will display the amount of power in kilowatts (kW) being used by that equipment • **Return Air** is the temperature of the air coming back into the cooling unit • **Return and Discharge Temperature Sensors** – Measures the return air and discharge air temperature for each cooling unit https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, pp. 2, 24.

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	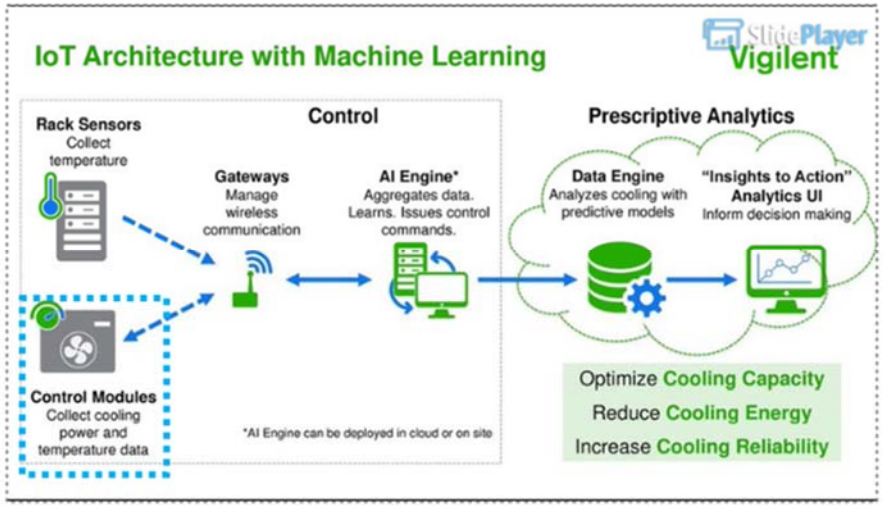 https://slideplayer.com/slide/12118919/

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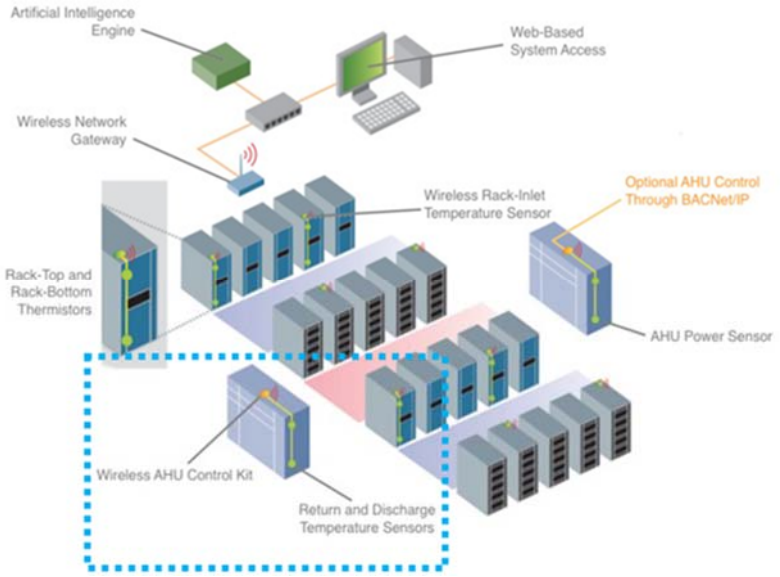
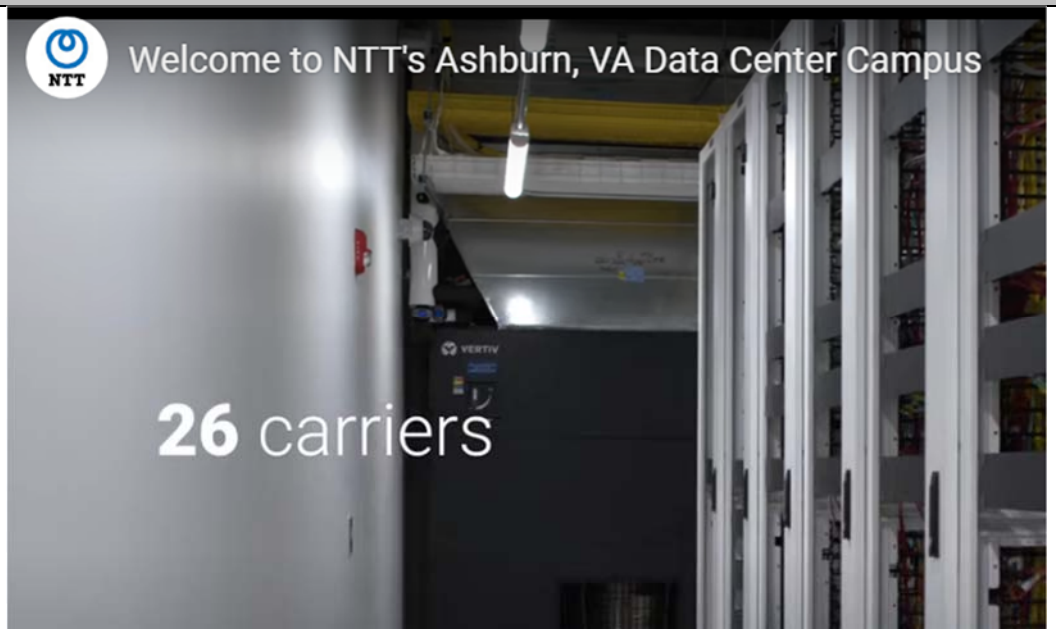
	 https://slideplayer.com/slide/12118919/ NTT also uses Liebert cooling units which are heat exchangers that receive air from the room and deliver cool conditioned air to the room by transferring heat from the air to a fluid.

Claim 1	Exemplary Evidence of Infringement by NTT
	 https://services.global.ntt/en-us/services-and-products/global-data-centers/global-locations/americas/ashburn-va-1-data-center

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[1b] supplying said plurality of heat exchanger units with cooling fluid from an air conditioning unit;	NTT supplies said plurality of heat exchanger units with cooling fluid from an air conditioning unit. For example, NTT uses Vigilent's dynamic cooling management which supplies chilled water to the Computer Room Air Handler unit, CRAH (heat exchanger units) from a central chilled water plant.

Claim 1	Exemplary Evidence of Infringement by NTT
	Computer Room Air Conditioning unit. A standalone device sitting on the data center floor that provides cool air to the room via a fan. CRAC units usually have multiple local compressors and self-contained refrigerant as the cooling agent. CRAH Computer Room Air Handler unit. A standalone device sitting on the data center floor that provides cool air to the room via a fan. CRAH units typically use chilled water as the cooling agent that is supplied from a central chilled water plant in the facility. CT The Current Transducer (CT) is used with a power sensor to measure power of cooling units. CW Chilled Water unit. A type of CRAC unit that uses chilled water from a dedicated, onsite chiller plant to cool the discharge air. https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, Page 153.

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	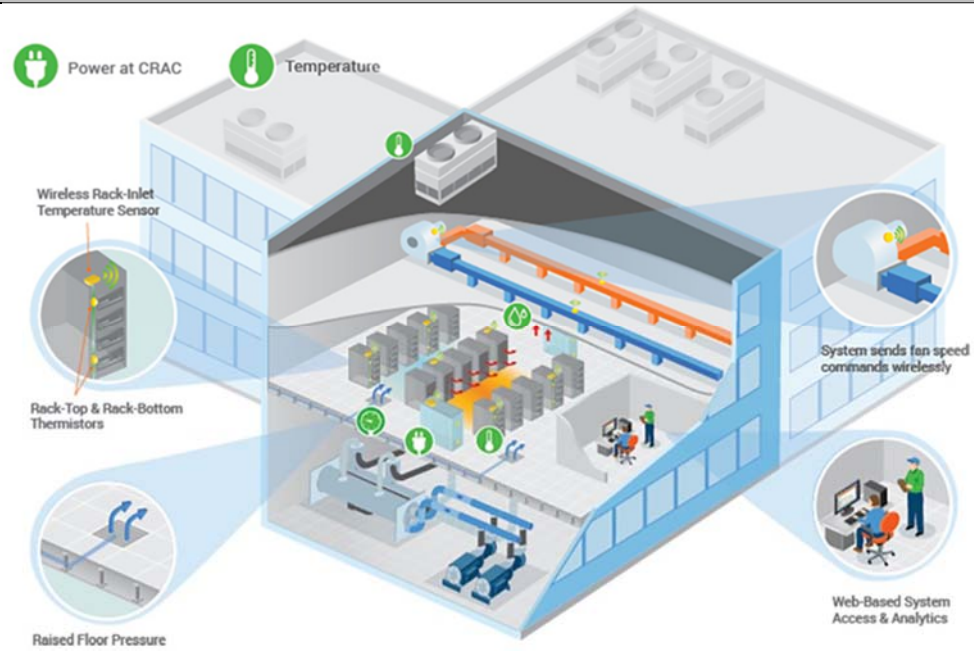 https://www.vigilent.com/products-and-services/monitoring/ NTT also uses Liebert's cooling units which have an evaporator. Refrigerant cooling fluid flows through heat exchanger coils in evaporator.

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	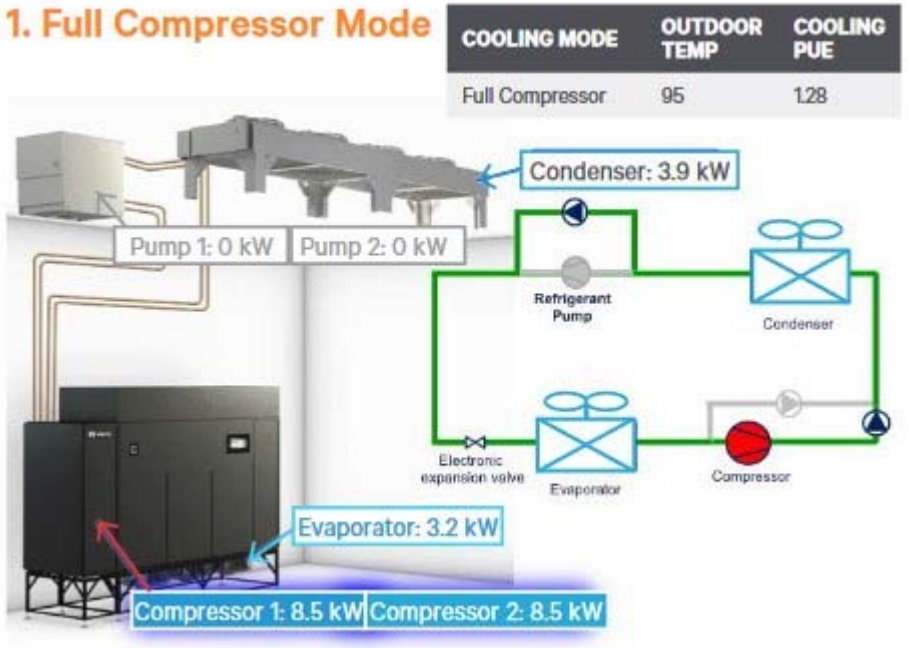 https://www.vertiv.com/49f1fd/globalassets/products/thermal-management/room-cooling/liebert-dse-sales-brochure-sl-18927_00.pdf NTT uses Liebert cooling units which have a chilled water control valve. Chilled watercooling fluid flows through heat exchanger coils in evaporator.

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Chilled Water Control Valve

The chilled water valve provides proportional control action in response to room temperature and humidity as sensed by the microprocessor control. It includes operating linkage and electronic motor. Unlike other systems of this nature it requires no over-travel linkage or end switches to be adjusted. The control uses "intelligent logic" to eliminate valve hunting, thus greatly increasing the life of the valve. The valve can be a 3-way or 2-way to meet the appropriate requirements of the installed system.

Claim 1	Exemplary Evidence of Infringement by NTT
	https://www.vertiv.com/491dda/globalassets/products/thermal-management/room-cooling/liebert-cw-brochure.pdf.
[1c] cooling said received air through heat exchange with the cooling fluid in the plurality of heat exchanger units;	NTT cools said received air through heat exchange with the cooling fluid in the plurality of heat exchanger units. For example, NTT uses Vigilent's dynamic cooling management which supplies chilled water to the Computer Room Air Handler unit, CRAH (heat exchanger units) from a central chilled water plant. Computer Room Air Conditioning unit. A standalone device sitting on the data center floor that provides cool air to the room via a fan. CRAC units usually have multiple local compressors and self-contained refrigerant as the cooling agent. CRAH Computer Room Air Handler unit. A standalone device sitting on the data center floor that provides cool air to the room via a fan. CRAH units typically use chilled water as the cooling agent that is supplied from a central chilled water plant in the facility. CT The Current Transducer (CT) is used with a power sensor to measure power of cooling units. CW Chilled Water unit. A type of CRAC unit that uses chilled water from a dedicated, onsite chiller plant to cool the discharge air. https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, Page 153.

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	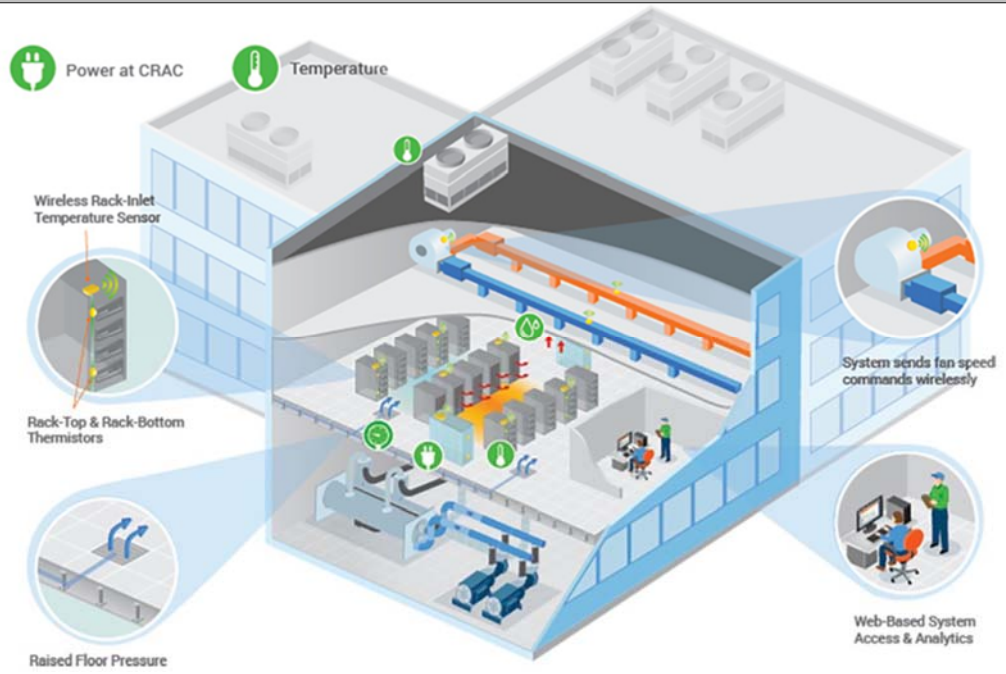 https://www.vigilent.com/products-and-services/monitoring/ NTT also uses Liebert cooling units to cool fluid (refrigerant) through the coil. The cooling fluid through the coil is chilled water/glycol. Liebert cooling units receive the "return air" from the room and deliver cool conditioned "supply air" to the room, by transferring heat from the air to the cooling fluid within the coil.

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	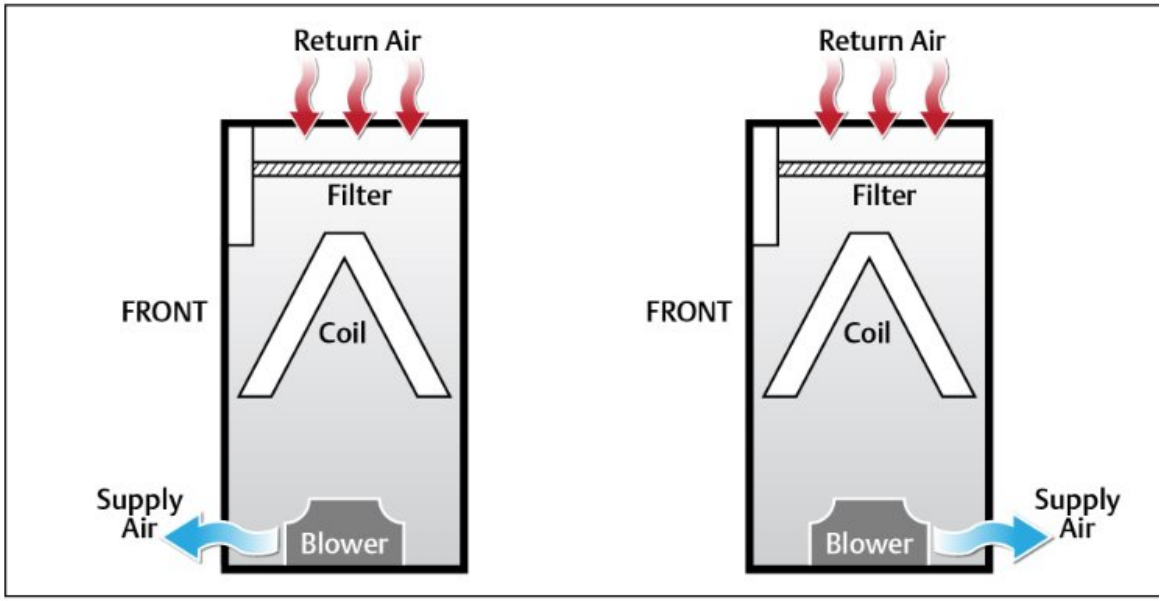 https://www.vertiv.com/4afe7d/globalassets/products/thermal-management/room-cooling/liebert-dse-80-165kw-23-43-tons-downflow-system-design-manual.pdf, pp. 3, 6.
[1d] sensing temperatures at one or more locations in said room;	NTT senses temperatures at one or more locations in said room. For example, NTT uses Vigilent's dynamic cooling management which reads rack sensors (deployed on the plurality of server racks) configured to measure inlet and outlet temperatures across the data center. **Wireless Rack-Inlet Temperature Sensor** – Wireless sensor that measures temperature at the top and bottom of the rack inlet. **Rack-Top and Rack-Bottom thermistors** – Attached via a cable sleeve, these are the physical monitoring points for each temperature sensor.

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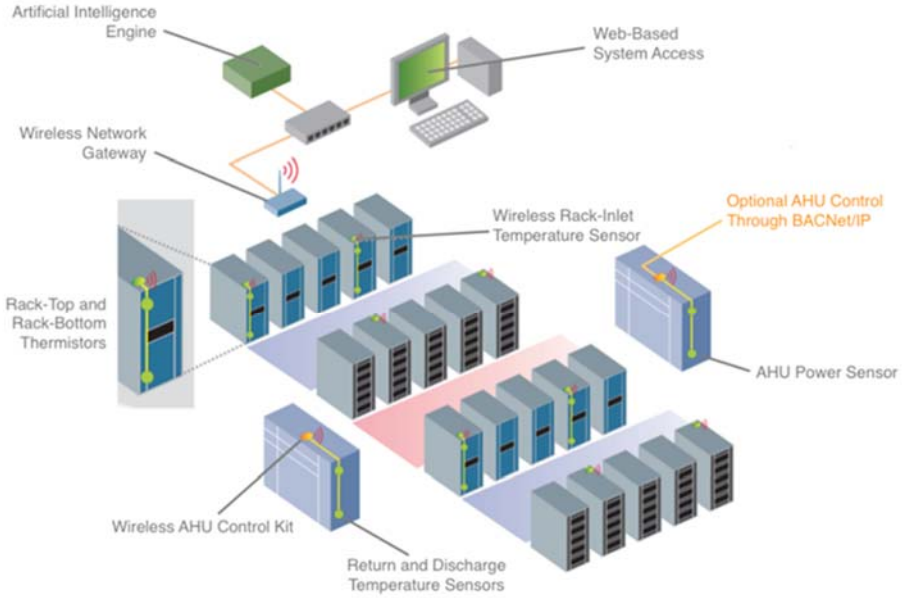
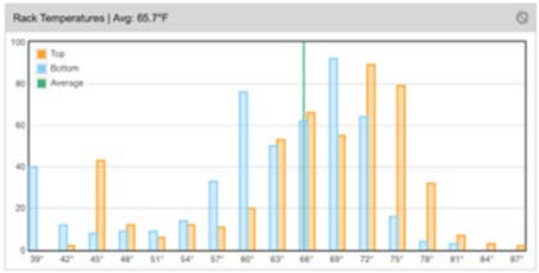
	https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, p. 2.  https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, p. 1. 

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	https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, p. 4. **Wireless Sensors** Wireless sensors are typically deployed every third rack to measure the inlet air temperature every minute. The sensors have two thermistors, one to capture temperature at rack bottom, the other at rack top. Wireless sensors are also used to monitor return and supply air temperature, and the power consumed, by each cooling unit. Sensors are also available to measure other environmental conditions, namely pressure and humidity. The sensors are based on advanced mesh networking technology, which allows each node to be both a source and repeater for other nodes, allowing the network to automatically self-configure and be resilient to intermittent outages or changes in site layout. https://www.vigilent.com/technology/system-architecture/ NTT also uses Liebert cooling units and the Liebert cooling unit control system senses temperatures at the supply sensor, remote sensor, or return sensor locations.

<table>
<tr><th>Claim 1</th><th>Exemplary Evidence of Infringement by NTT</th></tr>
<tr><td></td><td>

3.1.12 Automatic Fan Speed Control

Temperature sensors can control fan speed using one of three modes based on the type of sensor selected as the fan-control sensor: supply, return, or remote, see **Table 3.2** below. Control is based on the selected sensor for both fan control and temperature control and their setpoints as follows:

- Coupled: The fan control and temperature control sensor selection is the same. When coupled, fan speed is determined by the temperature setpoints.
- Decoupled: The fan control and temperature control sensor selection is different. When decoupled, fan speed is determined by the fan setpoints.

Table 3.2 Fan Speed Controlling Sensor Options

		Temperature Control Sensor Selected		
		Supply Sensor	Remote Sensor	Return Sensor
Fan Control Sensor Selected	Supply Sensor	Coupled	N/A	N/A
	Remote Sensor	Decoupled (Recommended)	Coupled	N/A
	Return Sensor	Decoupled	Decoupled	Coupled

https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 45.

</td></tr>
<tr><td>[1e] controlling at least one of the temperature of said cooling fluid and said air delivery by said plurality of heat exchanger units to said room in response to said sensed temperatures at said one or more locations; and</td><td>NTT controls at least one of the temperature of said cooling fluid and said air delivery by said plurality of heat exchanger units to said room in response to said sensed temperatures at said one or more locations.

For example, NTT uses Vigilent’s dynamic cooling management to generate an airflow for an optimal cooling output using the CRAH unit based on the temperature of the rack sensors.</td></tr>
</table>

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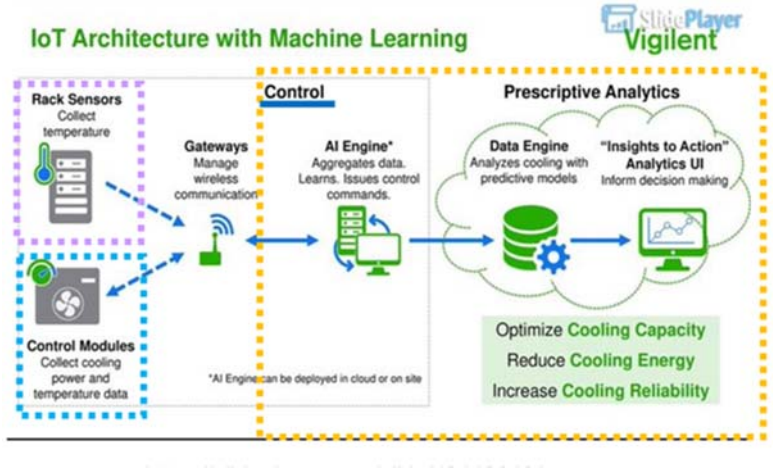
	Computer Room Air Conditioning unit. A standalone device sitting on the data center floor that provides cool air to the room via a fan. CRAC units usually have multiple local compressors and self-contained refrigerant as the cooling agent. CRAH Computer Room Air Handler unit. A standalone device sitting on the data center floor that provides cool air to the room via a fan. CRAH units typically use chilled water as the cooling agent that is supplied from a central chilled water plant in the facility. https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, pp. 157, 158  https://slideplayer.com/slide/12118919/

Claim 1	Exemplary Evidence of Infringement by NTT

Using wireless temperature sensors, the system collects granular information about the thermal environment of your facility. Temperature sensors are placed every three to four racks measuring temperature at the top and bottom of the rack. Thermal data is communicated via a wireless mesh network back to the control software.

The AI control software uses the real-time thermal data to learn and build an airflow model of the environment. The model is used to determine the optimal cooling output to ensure that the thermal environment is maintained with a minimal amount of energy.

The software then makes active control decisions for each cooling unit. The **Data Center Control** section provides more detail on the different control capabilities of the system. The real-time temperature monitoring provides thermal feedback as the software begins to control the environment. This constant monitoring and control response occurs automatically and dynamically to optimize your thermal environment.

https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, pp. 102, 103.

NTT also uses Liebert cooling units which have temperate sensors that control fan speed in response to sensed temperatures.

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Temperature sensors can control fan speed using one of three modes based on the type of sensor selected as the fan-control sensor: supply, return, or remote, see **Table 3.2** below. Control is based on the selected sensor for both fan control and temperature control and their setpoints as follows:

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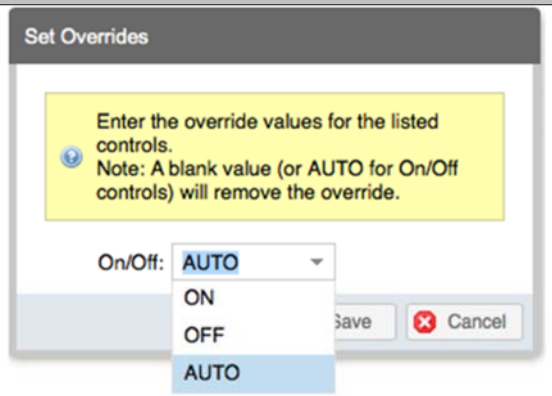
	https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 45. The Liebert cooling unit controls activates the flow of chilled water/glycol, and varies cooling capacity by adjusting a motorized ball valve. **7.1.4 Temperature Control with a Fluid Economizer** When an economizer is installed, the cooling requirement (determined by the temperature proportional band) is addressed first by the economizer's secondary cooling, if the economizer cooling capacity is insufficient, the compressor(s) begin cooling to bring the room air temperature down to the temperature setpoint. The fluid economizer employs a motorized ball valve that controls the flow of chilled water/glycol to provide a cooling capacity from 0% to 100%. https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 110.
[1f] wherein the step of controlling said air delivery by said plurality of heat exchanger units comprises individually manipulating a mass flow rate of the cooling fluid supplied to each of the plurality of heat exchanger units.	NTT controls said air delivery by said plurality of heat exchanger units comprises individually manipulating a mass flow rate of the cooling fluid supplied to each of the plurality of heat exchanger units. For example, NTT uses Vigilent's dynamic cooling management to control the water flow supplied to each cooling unit automatically based on the measured temperature. CRAH Computer Room Air Handler unit. A standalone device sitting on the data center floor that provides cool air to the room via a fan. CRAH units typically use chilled water as the cooling agent that is supplied from a central chilled water plant in the facility. WtrFlow Measured volumetric water flow rate. https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, p. 153.

Claim 1	Exemplary Evidence of Infringement by NTT
	Using wireless temperature sensors, the system collects granular information about the thermal environment of your facility. Temperature sensors are placed every three to four racks measuring temperature at the top and bottom of the rack. Thermal data is communicated via a wireless mesh network back to the control software. The AI control software uses the real-time thermal data to learn and build an airflow model of the environment. The model is used to determine the optimal cooling output to ensure that the thermal environment is maintained with a minimal amount of energy. The software then makes active control decisions for each cooling unit. The **Data Center Control** section provides more detail on the different control capabilities of the system. The real-time temperature monitoring provides thermal feedback https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, pp. 102, 103. **How does the software control each cooling unit?** There are many differences in how a cooling unit can be controlled. Some units can only be turned ON and OFF. Some have Variable Frequency Drives (VFDs) for fan speed control, and others have been retrofitted with EC Plug Fans, which also have fan speed control. The Vigilent System is designed to work with all of these units and even a mix of different types. The Vigilent system controls the HVAC equipment to keep each zone temperature within its set point, configured by the user in the **Set Points tab**, while reducing airflow energy. The reduced airflow conserves energy by reducing fan power and putting less demand on chiller plants and boilers. https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, pp. 104, 107.

Claim 1	Exemplary Evidence of Infringement by NTT



- AUTO means the Vigilent system is in control of this unit and will turn the unit on or off automatically as necessary.
- ON will turn the unit on, and disables the ability of the Vigilent system to control this unit. It will remain on until this override is removed.
- OFF will turn the unit off, and disables the ability of the Vigilent system to control this unit. It will remain off until this override is removed.

https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF, p. 47

NTT also uses Liebert cooling units which have Teamwork mode. Teamwork mode evaluates changes in the air temperature of the inlet, outlet, or supply temperature of the heat dissipating devices and adjusts one or more cooling units controls to provide the required cooling capacity.

6 Teamwork, Standby and Rotation for Cooling Units

U2U communication via private network and additional hardware (see U2U Networking on page 95) allows the following operating features for the cooling units:

- Teamwork
- Standby (Rotation)
- Cascade

Claim 1	Exemplary Evidence of Infringement by NTT
	https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 99. **6.2.3 Teamwork Mode 1—Parallel Operation** In Teamwork mode 1, fan speed and cooling capacity are ramped up in parallel, which means that all units operate identically. Teamwork mode 1 is best for small rooms with balanced heat loads. A master unit collects the controlling readings for temperature and humidity from all the operating (fan on) units in the group, then determines the average or worst-case reading, and sends operating instructions to efficiently distribute cooling capacity across available units. In Teamwork mode 1, most parameters are shared and, when set in any unit, are set in all units in the group. **6.2.4 Teamwork Mode 2—Independent Operation** Teamwork mode 2 works well for most applications, and best in large rooms with un-balanced heat loads by preventing units in a group from operating in opposing modes, some cooling and some heating. All temperature and humidity parameters are shared by the group. The master unit monitors all available unit-sensor readings and determines the demand for cooling, heating, humidification and dehumidification, then sends operating instructions to address the greatest demand. In Teamwork mode 2, the setpoints for all units must be identical. The proportional band, deadband, and related settings may differ by unit. Fan speed is modulated per unit. Rotation and cascading is not available, so expect uneven distribution of work hours. **6.2.5 Teamwork Mode 3—Optimized Aisle Operation** In Teamwork Mode 3, the fan speed for all units operates in parallel, which means fan speed operation is identical at each unit. However, cooling capacity operates independently for each unit. Teamwork mode 3 takes advantage of variable speed fan options and variable capacity component options to maintain rooms with an unbalanced load and to prevent units in a group from operating in opposing modes. All units operate in the same mode based on the average or worst case (maximum) readings from the unit sensors. A local control (cooling capacity supply sensor) provides input to manage and maintain the discharge-air temperature at each unit. In addition, fan speed and operation are controlled based on readings from the unit temperature or static pressure sensors to control air delivery to the cold aisle. https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 102.

Claim 1	Exemplary Evidence of Infringement by NTT
	The Liebert cooling units also have standby mode. Standby mode evaluates changes in the air temperature of the inlet, outlet, or supply temperature of the heat dissipating devices and actives/de-actives one or more cooling units to provide the required cooling capacity. **6.3 Assigning Cooling Units to Standby (Lead/Lag)** Standby assigns some units to operate while others are on standby, meaning a unit is idle but ready to become active in the event of an alarm condition in one of the operating units or based on a rotation schedule. When a unit is in standby mode, fan(s) are off and no cooling occurs. In multiple cooling unit systems, assigning units to standby lets you: • Configure redundancy in case of failure scenarios (standby). • Manage cooling unit run time (lead/lag). See Setting a Rotation Schedule on the next page . • Modulate for very low loads to full design load (to be temperature reactive) by cascading activation of standby units (configured when setting up teamwork mode). https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 103.